

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

EX PARTE Paul Nadj et al.

Application for Patent

Filed: August 16, 2001

Application No. 09/931,841

Examiner: FILIPCZYK, Marcin R.

Art Unit: 2169

Date: November 26, 2008

FOR:

SYSTEM AND METHOD FOR SCHEDULING AND
ARBITRATING EVENTS IN COMPUTING AND
NETWORKING

REPLY BRIEF

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I. STATUS OF CLAIMS

Claims 5-10, and 22-27 are pending in the subject application. Claims 1-4, and 11-21 have been cancelled. Claims 5-10, and 22-27 have been rejected and are on appeal.

II. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

- A. Whether claims 22-27 are patentable under 35 U.S.C. § 101
- B. Whether claims 5-10 and 22-27 are patentable under 35 U.S.C. § 102(e) over Cochran et al. (U.S. Patent No. 6,701,324)

III. ARGUMENT

Appellants assert that the Examiner has refused to consider the invention as a whole and continued to break-down rejections into incoherent pieces that poorly show how the prior art arguably teaches the featured claims.

Appellant asserts that the arguments previously presented in the Appeal Brief still stand valid. Further arguments are presented below addressing the Examiner's response.

A. Rejection of claims 22-27 under 35 U.S.C. § 101.

1. Claims 22-27

i. Claims 22-27 are directed to statutory subject matter

Claim 22 is a computer readable medium having program instructions for scheduling events in a computer processing system, and includes program instructions for selecting one of the events corresponding to a node having a highest priority for transmission to a processing resource, and program instructions for processing the selected one of the events at the processing resource prior to remaining events (emphasis added).

The Court of Appeals for the Federal Circuit stated that the machine-or-transformation test is the applicable test for patent-eligible subject matter as articulated by the Supreme Court, *In re Bernard L. Bilski (Bilski) and Rand W. Warsaw 2007-1130, (Serial No. 08/833,892)*. The Court in Bilski stated that “a claim that ... is still tied to a machine or achieves an eligible transformation passes muster under § 101.”

Claim 22 is tied to a machine because it defines features for a computer processing system, and more specifically, scheduling events for the computer processing system. Thus, claim 22 is tied to a machine and is believed to be patentable under § 101. Further,

claim 22 defines selecting one of the events and processing the selected one of the events at the processing resource prior to remaining events. Processing an event is a clear transformation of the computer processing system because the computer processing system transform from having the selected event in a non-processed state to a state where the event has already been processed. Because the events are kept in data structures, and data structures are kept in memory within the computer processing system, processing the event means a transformation in the memory of the computer processing system. Thus, claim 22 is also believed patentable under § 101 because it includes a transformation of the computer processing system.

In the Response to Arguments, the Examiner has asserted the following:

"Selecting an event for processing does not require any transformation take place. Second, the term "firmware" is not claimed in the pending claims. The rejection is directed to a mere program listing because the claimed medium is not defined in the specification and does not claim storing the program instructions in a computer processing system." (page 7, second paragraph - emphasis added).

Applicants respectfully disagree. First, claim 22 does not only select an event, but also processes the event, which the Examiner failed to realize. As explained above, claim 22 does include a transformation. Additionally, the Examiner fails to interpret the claim in light of the specification. It is proper to claim a computer readable medium having program instructions, if the specification includes firmware, which is as computer readable medium having program instructions. There is no requirement to explicitly claim firmware. Further, the Examiner offers contradictory statements. On one hand the Examiner seems to admit that "Firmware" is part of the Specification, and on the other hand the Examiner asserts that the "claimed medium is not defined in the specification."

Applicants respectfully assert that firmware (computer readable medium) is defined in the Specification as discussed in the Appeal Brief, and the Examiner's rejection is improper.

Thus, claim 22 and dependent claims 23-27 are believed to be patentable under § 101.

B. Rejection of claims 5-10 and 22-27 under 35 U.S.C. § 102(e) over Cochran et al. (U.S. Patent No. 6,701,324)

1. Claims 5-9 and 22-27

i. Cochran does not teach defining a data structure with a root level having a node group, in the context described in the independent claims

Although the Examiner admits that Cochran illustrates in Figure 1A a distributed data collection, the Examiner equates this network topology (distributed data collection) to a data structure, seemingly because it looks like a data structure. Applicants respectfully disagree. A distributed data collection is not a data structure.

Further, the Examiner asserts that "the entire data structure may be referred to as a single data structure because all of the elements of the structure can be accessed from the root level (item 110 and col. 8, lines 56-65 [excerpted below])" (bottom of page 8 - line 2 of page 9).

"Collector 108n also includes a router 426 which consults the topology management daemon (routing manager) and performs calculations based on the source and recipient identifiers 414 and 416 necessary to determine the next upstream collector node within the collection network for the CTOC. Router 426 may cache frequently utilized routes to minimize network traffic. Router 426 also optimizes transmission of the collection data to the next upstream node for bandwidth utilization by controlling the activation time and duration fields 420a-420b in the CTOC 406" (col. 8, lines 56-65 – emphasis added).

The Examiner has equated Routing Manager 110 to the claimed root level. However, the referenced excerpt teaches a router 426 inside collector 108n, as seen in

Figure 4. Router 426 is not inside Routing Manager 110 and is not the same as Routing Manager 110. Thus, Cochran does not teach a single data structure.

Further, the Examiner asserts that “the claimed invention is not a data structure claim but is a method for scheduling events in a computer system” (page 8, lines 2-3), which is completely irrelevant. The method of claim 5 specifies defining a data structure. Thus, a § 102 rejection must show prior art that teaches “defining a data structure” with the properties identified in the claim. The Examiner has failed to do so, and just because claim 5 is a method claim does not mean that the Examiner can ignore structures (data structure) associated with the method claim.

ii. Cochran does not teach defining a data structure with a root level having a node group, the node group having k number of nodes, each of the k number of nodes sharing a pointer, each of the k number of nodes stored contiguously in memory

Claim 5 specifies a data structure with a root level having a node group, the node group having k number of nodes, each of the k number of nodes sharing a pointer, each of the k number of nodes stored contiguously in memory, wherein the k number is equal to a number of multiple queues. The person skilled in the art will readily appreciate the meaning of “nodes stored contiguously in memory.” The Examiner has put forward an absurd argument that translates nodes stored contiguously in memory to nodes within a network accessible in memory. Not only the Examiner ignores the meaning of “contiguously”, but also inappropriately expands the concept of memory (implicitly in a machine) to include all the memory available in nodes of a network. The broadening of

the “nodes stored contiguously in memory” is completely unsupported and no person skilled in the art would interpret this feature as the Examiner has.

Additionally, the Examiner has asserted that Cochran teaches the feature where “k number is equal to a number of multiple queues.” The Examiner, his Supervisor, and the Appeal Specialist that signed the Reply Brief, do not seem to understand the meaning of “comprises.” The Examiner has asserted the following:

‘the claimed language uses “comprises” and not “consisting of”, and because the claimed language is open ended it allows for additional features to be read between the claimed elements. Hence, each node (108) comprises at least one queue (items 104 and 106)’ (page 9, last line – page 10, line 2, emphasis added).

“Each node comprises at least one queue” is not an additional feature but rather a broader feature than the feature where “k number is equal to a number of multiple queues.”

Claim 5 specifies that each node group has k number of nodes, where the k number is equal to a number of multiple queues. Thus, each node group has the same number of nodes. The Examiner completely ignores this feature and replaces it with language indicating that each node group can have a different number of nodes.

Section 2111.03 of the MPEP states that ‘[t]he transitional term “comprising”, which is synonymous with “including,” “containing,” or “characterized by,” is inclusive or open-ended and does not exclude additional, unrecited elements or method steps’ (emphasis added). The term comprises can be used to interpret a claim by adding “unrecited” elements, but this does not mean that “recited” elements can be ignored. If an Examiner could change a claimed element to a broader one that best suits the Examiner, every claim containing the term “comprises” could be rejected by changing the claimed elements. Thus, the Examiner’s interpretation of the claim language is improper.

iii. Cochran does not teach assigning a value representing the corresponding priority to the respective nodes

The Examiner still fails to consider the claims as a whole and mixes concepts to create non-existing features of Cochran. The Examiner has asserted that “[w]hen a queue has priority 1, all the events (104) associated with that queue may also comprise the same priority and the assigned node (108) to a respective queue will then process the top priority queue first” (page 10, third paragraph, emphasis added). As seen in Figure 4 of Cochran, queues 402 and 404 include elements that are selected according to priority. The Examiner improperly assigns a queue a priority but Cochran does not teach such thing. Cochran teaches priorities for the elements inside the queue, not for the queues. Further, there is no teaching in Cochran about processing queues according to a priority and the Examiner extrapolates items inside a queue to a priority of a queue with no analysis whatsoever.

iv. Cochran does not teach determining a priority between the respective nodes based on respective values representing the corresponding priority to the respective nodes

Appellant asserts that the arguments previously presented in the Appeal Brief still stand valid.

v. Cochran does not teach selecting one of the events corresponding to a node having a highest priority for transmission to a processing resource

Appellant asserts that the arguments previously presented in the Appeal Brief still stand valid.

2. **Claim 10**

i. **Cochran does not teach resolving conflicts between respective nodes assigned a same value by rotating a pointer among the respective nodes assigned the same value**

Appellant asserts that the arguments previously presented in the Appeal Brief still stand valid. The Examiner continues to creatively make up supposed Cochran's teachings by looking at Figure 1 and creating an interpretation not supported by Cochran. More specifically, the Examiner has asserted the following:

"According to Figure 1A, if two nodes comprise the same priority then a determination is made to determine which node should be processed first, for example based on node availability or other factors (col. 3, lines 60-65). Picking the determined node involves rotating the pointer to the respective node for selection and processing" (page 10, last paragraph, emphasis added).

The excerpt cited by the Examiner is as follows:

"Data is collected based on certain characteristics such as priority, availability of the source (endpoint 104 or collector 108a-108n), and bandwidth usage. A collector 108a-108n may collect data from endpoints 104 or from another collector (e.g., collectors 108a and 108n in the example depicted). A collector 108a-108n may transfer data to another collector or to the recipient of the collection" (col. 3, lines 60-65).

There is no teaching of a rotating pointer in Cochran (the word "pointer" does not even appear in Cochran's patent). A mere reference to collecting data based on priority does not teach how to resolve conflicts when the nodes have the same value (priority, as seen in claim 1), much less resolving conflicts by rotating a pointer among the respective nodes assigned the same value, as claimed by Applicants.

C. Conclusion

In summary, the Examiner has continued to read nonexistent teachings in the prior art making completely unreasonable interpretations of such prior art. Appellant asserts that all previously presented arguments still stand valid and respectfully request that the Board of Patent Appeals and Interferences reverse the Examiner's rejections of the claims on appeal.

Respectfully submitted,
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